

$$f_1 = nl_1(y_2)$$

$$f_2 = nl_2(y_4) + nl_3(y_4) + nl_3(y_4)$$

$$f_3 = nl_3(y_3) + nl_2(y_4) + nl_4(y_4)$$

$$f_4 = nl_1(y_3)$$